

# The Influencing Factors of Chinese Corporations' Leverage

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**Abstract**— Faced with the pressure of economic downturn and structural transformation, high debt leverage has become a prominent problem of China's economic development. This article takes 2007-2018 annual data of non-financial companies listed on A-shares as an example, analyzes the influencing factors of Chinese corporations' leverage, the empirical results find that macroeconomic environment have a significant impact on corporate debt leverage ratio, and sufficient liquidity is conducive to increasing the willingness of enterprises to expand reproduction and has a positive impact on corporate debt leverage. Financial market factors have a significant impact on corporate debt leverage ratios, the greater the financial institution's support for the real economy, the stronger the company's ability to obtain debt financing. The operation indicators of enterprises have a significant impact on the corporate debt leverage ratios, profitability and leverage ratios have a negative correlation, and this negative correlation is the most significant of all influencing factors.

**Keywords**— Chinese Corporations' Leverage Influencing factors.

## I. INTRODUCTION

After the outbreak of the financial crisis, the topics surrounding the financial crisis and the debt crisis aroused the interest of many scholars. Debt leverage, economic cycles, monetary policy, credit scale, shadow banking and other factors are intertwined, making the problem of debt leverage more complicated. Facing the downward pressure of the global economy and the pressure of economic structural transformation, excessive debt leverage has become a prominent issue of China's current economic development. How to trace the source and adapt to local conditions has become a huge challenge to regulators. According to BIS (International Settlement Bank) statistics, as of the third quarter of 2018, the leverage ratio of China's real economy macro debt was 252.7%, an increase of about 110% over 2008. Among them, the non-financial corporate sector leverage ratio was 152.9%, an increase of about 55% over 2008.

### 1.1 Definition of corporate debt leverage

From a macro perspective, it is commonly used to measure total debt / GDP to facilitate horizontal international comparisons (BIS, 2011; IMF, 2015; People's Bank of China Leverage Research Group, 2014; Li Y, 2015, etc.). From a micro perspective, the debt leverage ratio (that is, the asset-liability ratio) reflects the ratio of borrowed capital of the company to its own capital. The leverage ratio is high, indicating that the company has more borrowed capital than its own capital. Larger. It is basically the same that when discussing the issue of debt leverage from the perspective of the business sector, the debt leverage ratio indicator is used corporate debt leverage ratio= total corporate debt / GDP; when discussing the issue of debt leverage from a certain corporate industry or individual, the asset-liability ratio is used the debt leverage ratio = liability / asset.

### 1.2 China's Debt Leverage Situation

Since the US subprime mortgage crisis in 2008, China 's macro debt leverage has shown an upward trend as a whole

(Figure 1). According to BIS (International Settlement Bank) statistics, as of the third quarter of 2018, the leverage ratio of China's real economy macro debt was 252.7%, an increase of about 110% compared to 2008. Among them, the

non-financial corporate sector leverage ratio was 152.9%, an increase of about 55% over 2008. After decomposing, it is found that the high leverage ratio of China's macro debt is mainly reflected in the non-financial corporate sector.

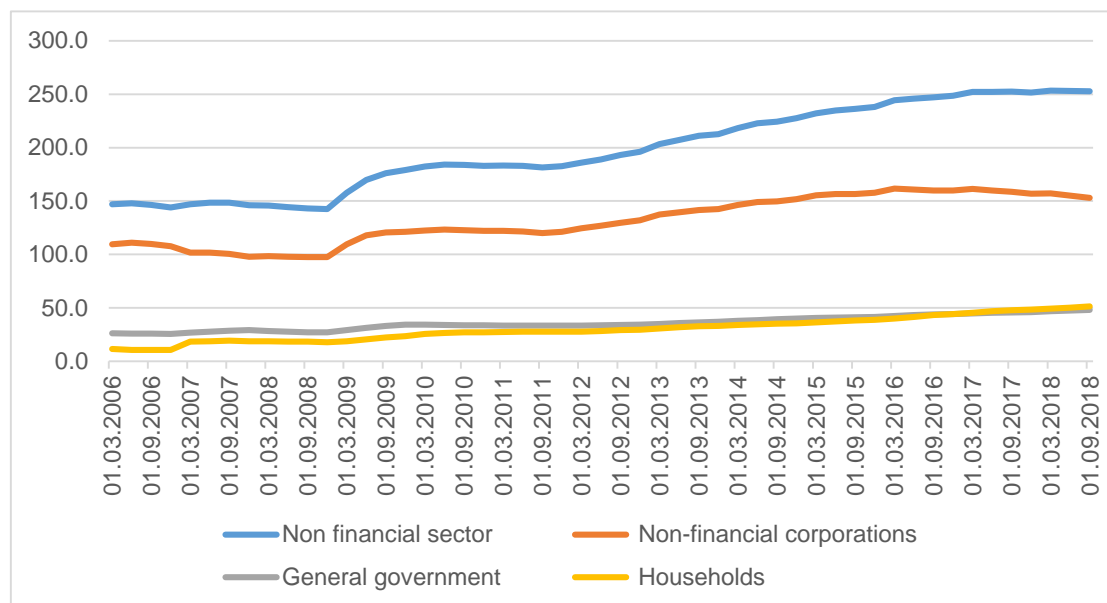


Fig.1: Macro Debt Trend of China's Real Economy (2006-2018)

Data source: BIS

In the context of the non-financial corporate sector debt leverage ratio is so high, we concern about the reasons of the rapid rise of debt leverage? It is not only academic issues, but also important policy issues. The structure of this article is as follows: the second part is literature review, the third part is the introduction of the basic model, the fourth part is the analysis of empirical results, and the fifth part is conclusion.

## II. LITERATURE REVIEW

According the existing literatures, the influencing factors of Chinese corporations' leverage can be roughly divided into micro and macro aspects. The micro level is mainly based on the enterprise itself, and selects indicators such as the company's capital structure, profitability, debt repayment ability, and cash liquidity; the macro level mainly studies the economic growth, monetary policy, inflation rate, and financial development.

From a micro perspective, the debt leverage ratio is closely related to its own operating efficiency. Ma J et al. (2016) believe that the excessive leverage of enterprises is

closely related to the inefficient use of corporate funds. When enterprises are inefficient and have overcapacity, they can only borrow new debt to pay off old debt, the situation of capital and liabilities being ineffective. Bu D, etc. (2017) believe that excess capacity and rising leverage ratio are in the same direction, and the increase in leverage will cause further inefficient production capacity, resulting in the overcapacity and leverage ratio. Jiang Hand Zhang Y (2017) found that the enhancement of the company's own capabilities (enterprise assets, endowments) and the improvement of the overall industry boom have a negative inhibitory effect on the company's asset-liability ratio. Lu T and Yu Y (2015) believe that the reason for the high debt leverage ratio of non-financial companies is that China's capital-to-output ratio has increased and corporate profitability has declined.

From a macro perspective, the trade-off theory is that when a country's GDP growth rate is higher, companies have a higher level of profitability, and tend to use debt financing, the corporate debt leverage will also increase. The empirical results also validate this view (Tan X et al.,

2018; Yang G, 2018, etc.). Studying the issue of leverage from the perspective of monetary policy can be roughly summarized into the following three perspectives: Firstly, the credit expansion caused by the expansion of the base currency. Specifically, the loose monetary environment and the enthusiasm for investment in the corporate sector have led to an increase in credit scale. Secondly, debt financing accounts for a relatively high proportion in the social financing structure. On the one hand, in developing countries where the level of financial development is not high and the legal environment is not sound, entity companies tend to use debt financing, which has led to a rise in the proportion of debt; on the other hand, in countries dominated by the banking system, the financial sector also The tendency to lend funds to companies with good credit qualifications, more mortgage guarantees, but low returns on assets Thirdly, the imbalance in the structure of resource allocation among macroeconomic sectors, commonly known as "soft budget constraints", is mainly manifested in the high debt leverage of state-owned enterprises in the corporate sector.

Based on the previous research results, this article comprehensively considers the effects of macroenvironment, financial market and micro factors on corporate debt leverage, and analyzes the influencing factors of corporation debt leverage of China.

### III. INTRODUCTION OF THE BASIC MODEL

#### 3.1 Introduction of the benchmark model

##### 1. Panel regression model.

The steps of panel regression model is to estimate the OLS regression model firstly, and the estimate the fixed effect model, and perform an F test to determine whether a fixed effect model or ordinary least squares method should be selected. If the F-test indicates that a fixed-effect model should be selected, further Hausman's test is required to determine whether a random-effect model or fixed-effect model is more effective.

The general panel regression model can be expressed as:

$$y_{it} = \alpha + \beta x_{it} + \mu_i + \varepsilon_{it} \quad (3.1)$$

Where  $y_{it}$  is the dependent variable,  $x_{it}$  is the independent variable,  $\mu_i$  is the individual effect, and  $\varepsilon_{it}$  is the random disturbance term.

##### 2. Dynamic panel model.

If the lagging term of the explanatory variable is added to the explanatory variable of the model, the model formed at this time is a dynamic panel model. If the dynamic panel model directly uses OLS regression or panel model regression, it will cause endogenous problems because it includes the lag terms of the explanatory variables. At this time, maximum likelihood estimation can be used. Kelejian and Prucha (1999)、Bell and Bockstael (2000) showed that compared with maximum likelihood estimation, the generalized moment estimation method (GMM) of the system is unbiased when estimating the dynamic panel model, and the method of system GMM estimation is more concise. The general dynamic panel model can be expressed as:

$$y_{it} = \alpha + \rho y_{it-1} + \beta x_{it} + \mu_i + \varepsilon_{it} \quad (3.2)$$

Where  $y_{it}$  is the dependent variable, and  $y_{it-1}$  is the lagging first-order term of the dependent variable,  $x_{it}$  is the independent variable,  $\mu_i$  is the individual effect, and  $\varepsilon_{it}$  is the random disturbance term.

#### 3.2 Data sources

The data is the annual sample data of listed companies listed in China's A-shares, with a time span of 2007 to 2018. The sample data has been processed: (1) In view of the special characteristics of financial listed companies, delete such listed companies; (2) deleting the samples of which the listed company has missing data; (3) deleting the ST and PT listed companies' data; (4) choosing Winsorize tailing level of 1%. After data processing we got unbalanced panel data, involving 26470 samples from 3246 listed companies, with the longest time span of 12 years.

#### 3.3 Variable Introduction

1. Explained variable. The dependent variable is corporate debt leverage. Since data from A-share listed companies, the asset-liability ratio (total debt / total assets) is used to represent it.

2. Macro environment explanatory variables. Macro

explanatory variables include: GDP growth rate, M2 growth rate, and real interest rate. The GDP growth rate (gdpr) is represented by the year-on-year growth rate of GDP; the M2 growth rate (m2gr) is represented by the year-on-year growth rate of M2; and the real interest rate (loar) is represented by the US real loan interest rate.

3. Financial market explanatory variables. Financial explanatory variables include: Social financing scale, financial leverage, non-performing loan ratio. The scale of social financing (ltsf) is represented by the logarithm of the scale of social financing; the financial leverage (finl) is represented by the proportion of M2 in GDP; and the non-performing loan ratio (defr) is represented by the proportion of non-performing loans in financial institutions' loans.

4. Micro explanatory variables. Micro explanatory variables include: company size, profitability, financialization, growth, time to market, return on net assets, current ratio, proportion of fixed assets, corporate nature, non-debt tax shield. The company size (ltas) is represented

by the logarithm of the total assets of the listed company; profitability (pabt) is represented by the proportion of listed companies' earnings before interest and taxes as a percentage of total assets; The growth rate (lrev) uses the logarithmic representation of the operating income of the listed company; the listed time (lyear) uses the current year-the listed listing time; The return on net assets (ROE) is represented by the proportion of the listed company's net profit to the owner's equity; the current ratio (liqu) is represented by the current assets of listed companies as a proportion of current liabilities; the proportion of fixed assets (pofa) is represented by the proportion of fixed assets of listed companies in total assets;

Non-debt tax shield (ndts) uses the depreciation of listed companies as a percentage of total assets.

### 3.4 Basic Statistics of Variables

The basic statistics of the model's explanatory variables, macro environment explanatory variables, financial market explanatory variables and micro explanatory variables are shown in Table 1.

Table1 Basic Statistics

variables	number	mean	sd	min	p50	max
debt	26470	0.428	0.210	0.048	0.421	0.888
gdpr	26470	0.109	0.041	0.068	0.097	0.208
m2gr	26470	0.135	0.049	0.081	0.133	0.285
loar	26470	2.141	0.871	1.137	2.155	5.223
ltsf	26470	11.939	0.327	10.996	12.008	12.327
finl	26470	1.880	0.176	1.487	1.907	2.085
defr	26470	0.105	0.062	0.052	0.109	0.349
ltas	26470	21.948	1.278	19.503	21.781	25.879
pabt	26470	0.060	0.058	-0.161	0.055	0.245
finc	26470	0.177	0.541	-1.069	0.021	3.538
lrev	26470	21.282	1.433	18.068	21.147	25.265
lyear	26470	9.919	6.794	0.000	9.000	25.000
ROE	26470	0.069	0.116	-0.597	0.073	0.349
liqu	26470	2.539	2.852	0.292	1.628	18.613
pofa	26470	0.225	0.168	0.002	0.191	0.723
ndts	26470	0.020	0.015	0.001	0.017	0.070

### 3.5 Collinearity Test

Before using the model to analyze the relationship between variables, we need to test the multicollinearity between the variables. The usual method is to calculate the "Variance Inflation Factor" (VIF) between explanatory

variables. Larger values indicate higher levels of collinearity among model variables. If the value of the VIF factor between the variables is less than 10, the collinearity problem is not serious, and these variables can be used for analysis.

*Table 2 Collinearity Test Result*

Variables	VIF	1/VIF
finl	8.880	0.113
defr	8.040	0.124
loar	7.520	0.133
ltsf	6.850	0.146
lrev	5.450	0.183
ltas	5.420	0.185
m2gr	4.510	0.222
pabt	4.110	0.243
ROE	4.080	0.245
gdpr	3.920	0.255
ndts	3.210	0.312
pofa	3.210	0.312
lyear	1.490	0.671
liqu	1.380	0.725
finc	1.050	0.952
Mean VIF	4.046	

According to Table 2, the VIF data of each explanatory variable involved in the model are lower than 10, indicating that the multicollinearity problem is within the allowable range, and the model can be established for further analysis.

## IV. ANALYSIS OF EMPIRICAL RESULTS

### 4.1 Analysis of Empirical Results

A panel model is used to analyze the influencing factors of corporate debt leverage, we use Stata 16.0 software for OLS regression and fixed effect model analysis, and runs the F test. The OLS regression results of the model are shown in Table3.

*Table 3 OLS Regression Results*

debt	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]
gdpr	0.215	0.041	5.280	0.000	0.135 0.294
m2gr	0.455	0.036	12.660	0.000	0.385 0.526

loar	-0.016	0.003	-5.040	0.000	-0.022	-0.010
ltsf	0.002	0.008	0.310	0.753	-0.013	0.017
finl	-0.097	0.017	-5.720	0.000	-0.131	-0.064
defr	0.201	0.045	4.510	0.000	0.114	0.289
ltas	0.023	0.002	15.150	0.000	0.020	0.026
pabt	-1.037	0.029	-35.650	0.000	-1.094	-0.980
finc	-0.017	0.002	-10.990	0.000	-0.021	-0.014
lrev	0.026	0.001	19.070	0.000	0.023	0.029
lyear	0.004	0.000	23.620	0.000	0.003	0.004
ROE	0.164	0.015	11.300	0.000	0.136	0.193
liqu	-0.034	0.000	-100.160	0.000	-0.035	-0.034
pofa	0.013	0.009	1.430	0.152	-0.005	0.030
ndts	-1.595	0.100	-16.000	0.000	-1.790	-1.400
_cons	-0.405	0.076	-5.340	0.000	-0.554	-0.256

The regression results of the fixed effect model are shown in Table4.

*Table 4 Regression Results of The Fixed Effects Model*

debt	Coef.	Robust Std. Err.	t	P>t	[95% Conf.	Interval]
gdpr	0.077	0.030	2.570	0.011	0.018	0.136
m2gr	0.249	0.049	5.104	0.000	0.153	0.345
loar	-0.014	0.003	-5.468	0.000	-0.019	-0.009
ltsf	0.016	0.008	2.034	0.043	0.001	0.031
finl	0.058	0.013	4.314	0.000	0.031	0.084
defr	-0.145	0.028	-5.192	0.000	-0.199	-0.090
ltas	0.035	0.006	6.358	0.000	0.024	0.046
pabt	-0.434	0.048	-8.982	0.000	-0.529	-0.339
finc	0.020	0.011	1.776	0.077	-0.002	0.043
lrev	0.021	0.005	4.586	0.000	0.012	0.031
lyear	-0.003	0.001	-2.105	0.036	-0.006	0.000
ROE	0.012	0.021	-0.559	0.577	-0.053	0.029
liqu	-0.025	0.001	-29.939	0.000	-0.027	-0.024
pofa	0.033	0.021	1.602	0.110	-0.007	0.073
ndts	-0.540	0.228	-2.369	0.018	-0.987	-0.093
_cons	-0.660	0.095	-6.920	0.000	-0.848	-0.473

sigma_u	0.121	
sigma_e	0.089	
rho	0.650	(fraction of variance due to u_i)

The R-square of the fixed effect model is 0.5026, and F test that all  $u_i = 0$ :  $F(3245, 23208) = 12.10$ , and  $\text{Prob} > F = 0.000$ . The F test results show that the intercept terms of the samples are not equal, so the results using the fixed effect model are more suitable than OLS, but the choice of fixed effect and random effect models needs to be determined by the Hausman test method. In order to save space, the results of the random effects regression are no longer listed, and Hausman's test results are:

Test: Ho: difference in coefficients not systematic

$$\chi^2(16) = (b-B)'[(V_b - V_B)^{-1}](b-B) \\ = 837.08$$

$$\text{Prob} > \chi^2 = 0.0000$$

The Hausman test's P value is less than 0.05, which indicates that the null hypothesis was rejected, indicating that the model coefficients are significantly different, so the regression results of the fixed effect model should be used.

The overall regression results of the fixed-effect model will be analyzed from three aspects: macro environment factors, financial market factors, and micro factors:

#### 1. Macroenvironment factors.

(1) GDP growth (gdpr) has a positive impact on corporate debt leverage (debt) at a significant level of 5%. The higher the GDP growth rate, the better the economic situation, the better the macroeconomic environment, and the increased confidence of enterprises in future development. According to the trade-off theory, when a company has a good level of profitability, when financing a project, debt financing is usually used to expand the production scale and increase output. It can also use the tax shield effect to reduce costs, so that corporate debt leverage is also improved. Conversely, when the growth rate of GDP declines, the macroeconomic and financial environment becomes tighter, and companies will reduce the proportion of debt financing. After 2009, China's GDP growth rate has maintained an overall rate of more than 6%. The stable development of the macroeconomic environment has

created relatively favorable conditions for the development of enterprises, and has also driven the financing needs of enterprises.

(2) The M2 growth rate (m2gr) has a positive impact on corporate debt leverage (debt) at a significant level of 1%. The growth rate of M2 reflects the easing of credit funds in the market. A high growth rate of M2 indicates that the financial market is more liquid, the cost of funds is lower, and corporate financing is relatively easy. This will stimulate companies to use debt financing to expand production scale, and it will also bring increased corporate debt leverage. After the financial crisis, China launched a series of policies to stimulate economic growth. Among them, the "four trillion" series of plans injected sufficient liquidity into the market and expanded corporate financing needs.

(3) The real interest rate (loar) has a negative impact on corporate debt leverage (debt) at a significant level of 1%. The real interest rate index selected here is the U.S. real interest rate, which represents the global monetary and financial environment to a certain extent. The negative correlation between the two indicates that a decrease in the real interest rate will lead to an increase in the corporate debt leverage ratio. After the financial crisis, the Federal Reserve implemented quantitative easing policies. The low real interest rate has a resonance effect on the global monetary and financial environment to a large extent.

#### 2. Financial market factors.

(1) Social financing scale (ltsf) has a positive impact on corporate debt leverage (debt) at a significant level of 5%. The social financing scale stock refers to the balance of funds obtained by the real economy from the financial system at the end of a certain period (end of the month, end of the quarter, or year-end), which in turn reflects the degree of financing support provided by the financial structure to the real economy. The positive relationship between the two shows that the increase in the scale of social financing is



conductive to the expansion of corporate financing, which in turn promotes the expansion of production capacity, and will also increase the proportion of corporate debt leverage. As of December 2019, China's social financing scale stock reached 251.31 trillion yuan, an increase of 10.7% which strongly supported the reasonable growth of money and credit, and created a suitable monetary and financial environment for the development of enterprises. The positive effects of corporate debt leverage are in line with economic reality.

(2) Financial leverage (finl) has a positive impact on corporate debt leverage (debt) at a significant level of 1%. From a narrow perspective, financial leverage is a measure of the debt of financial institutions. It is usually measured by the credit / GDP of the private sector internationally (Cecchetti and Kharroubi, 2012; Ma Y et al., 2017). The increase in financial leverage indicates the credit expansion of financial institutions, that is, the expansion of financial institutions' balance sheets. The process of credit expansion is also the process of currency injection. It has a positive impact on liquidity and corporate financing, and it will also cause corporate debt. Increase in leverage.

(3) The non-performing loan ratio (defr) has a negative impact on corporate debt leverage (debt) at a significant level of 1%. The non-performing loan ratio shows the asset quality of commercial banks. It shows the ratio of non-performing loans to total credit. The non-performing loan ratio has decreased, which indicates that credit-granting companies are operating well and capital turnover is normal. Feedback from commercial banks is positive, and the financing environment is stable; Rising loan non-performing ratios indicate that credit companies have difficulty in capital turnover and business operations. At this time, banks and other financial institutions tend to shrink the size of loans. It is more difficult for companies to obtain financial support from commercial banks, which in turn causes corporate debt leverage to decline.

### 3. Micro factors.

(1) The company size (ltas) has a positive impact on corporate debt leverage (debt) at a significant level of 1%. Generally speaking, the larger the company's size, the stronger its ability to withstand financial risks, and the more confident the company is in operating and developing, the

easier it is for companies to raise funds, which will increase corporate debt leverage.

(2) Profitability (pabt) has a negative impact on corporate debt leverage (debt) at a significant level of 1%. According to the financing priority sequence theory, when financing, an enterprise first chooses internal financing, then debt financing, and finally equity financing. The stronger the company's profitability and the more abundant the funds retained by the company, the lower the need for external financing, which can reduce external financing and reduce the level of corporate debt leverage.

(3) The degree of financialization (finc) has a positive impact on corporate debt leverage (debt) at a significant level of 10%. Under the loose monetary policy environment, the scale of China's financial industry has developed rapidly, and its profit margin far exceeds that of the real economy. As a result, more and more entities have invested funds in financial assets and attempted to accumulate profits through financial channels. According to empirical results, the higher the degree of corporate financialization, the higher the debt leverage ratio.

(4) Growth (lrev) has a positive impact on corporate debt leverage (debt) at a significant level of 1%. Generally speaking, growing companies have stronger demand for capital, the better the company's growth, and the more financing needs, the higher the level of corporate debt leverage.

(5) The listed time (lyear) has a negative impact on corporate debt leverage (debt) at a significant level of 1%. The longer it has been listed, the more mature of the company's business model, the more stable of its cash flow, and the lower the need for external financing, thus driving down the level of corporate debt leverage.

(6) The return on net assets (ROE) has a positive impact on corporate debt leverage (debt), but it is not significant. A high return on the company's net assets indicates a higher return on shareholders' equity. Under the condition that the overall profitability of the company is relatively high, the company tends to use debt instruments to finance, on the one hand, it can obtain sufficient residual profit, and on the other hand, it can also reduce the free cash flow of the company. In addition, according to the return on equity



(ROE) = total net asset interest rate \* equity multiplier = total net interest rate / (1-asset-liability ratio), an increase in ROE will lead to an increase in the asset-liability ratio, which is in line with financial management theory.

(7) The current ratio (liqu) has a negative impact on corporate debt leverage (debt) at a significant level of 1%. The more liquid assets a company has, the better its operation level, and the lower its external financing needs, which will drive down the level of corporate debt leverage.

(8) The proportion of fixed assets (pofa) has no significant influence on corporate debt leverage (debt). Based on the full sample data, the increase in the level of fixed assets may have positive and negative effects on corporate debt leverage. On the one hand, the increase in the proportion of fixed assets of the enterprise indicates that the company is expanding its reproduction operations and has a strong demand for funds. This is reflected in the increase in the debt leverage ratio; on the other hand, the higher the proportion of fixed assets, the better the production and operation ability of the enterprise, and the better the debt repayment ability, the enterprise can obtain considerable income in large-scale production and operation, reducing the need for external financing. In addition, the formation of fixed assets of an enterprise and the benefits it brings to the enterprise require a certain period of time, so its impact on debt leverage is not significant.

(9) Non-debt tax shield (ndts) has a negative impact on corporate debt leverage (debt) at a significant level of 5%. Non-debt tax shield refers to the deduction effect of expenses other than debt interest, such as depreciation and

deferred tax losses. Non-debt tax shields and debt levels show a negative correlation, and this type of non-debt tax avoidance does not create the risk that debts will not be paid when due. Therefore, companies with a large number of non-debt tax shields use debt less than companies without non-debt tax shields. Non-debt tax shields can be used as a substitute for debt, reducing the corporate tax burden.

Among the micro factors, corporate profitability has the most significant impact on corporate debt leverage. This empirical result fully demonstrates that improving the company's own production and operation capabilities is critical to reducing debt leverage.

#### 4.2 Robustness Test

The foregoing empirical analysis considers the effect of current variables on the level of corporate debt leverage ratio, without considering its dynamic characteristics. In this section, a dynamic panel model is used to test the robustness of the influencing factors of China's corporate debt leverage. Based on the static panel model estimation, the lagging first-order term L1.debt of the corporate variable leverage (debt) of the explanatory variable is added to establish a dynamic panel model. The system GMM method described above is used for estimation. What needs to be explained is that In GMM estimation, macro explanatory variables and financial explanatory variables are regarded as strictly exogenous, that is, IV-type instrument variables; and micro-explanatory variables are regarded as endogenous variables, that is, GMM-type instrument variables. The results are shown in Table 5.

Table 5 Dynamic Panel Model Regression Results

debt	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]
L1.debt	0.594	0.012	49.590	0.000	0.571 0.618
gdpr	0.050	0.024	2.105	0.035	0.003 0.097
m2gr	0.062	0.033	1.859	0.063	-0.003 0.127
loar	-0.007	0.003	-2.646	0.008	-0.012 -0.002
ltsf	0.022	0.004	5.104	0.000	0.014 0.031
finl	0.088	0.010	8.703	0.000	0.068 0.108
defr	-0.294	0.071	-4.113	0.000	-0.434 -0.154

ltas	0.004	0.005	0.855	0.393	-0.005	0.013
pabt	-0.431	0.044	-9.778	0.000	-0.517	-0.344
finc	0.004	0.001	3.166	0.002	0.002	0.007
lrev	0.028	0.004	6.231	0.000	0.019	0.036
lyear	-0.001	0.000	-4.606	0.000	-0.002	-0.001
ROE	-0.038	0.019	-2.036	0.042	-0.074	-0.001
liqu	-0.020	0.001	-24.016	0.000	-0.022	-0.018
pofa	0.053	0.016	3.236	0.001	0.021	0.085
ndts	-1.945	0.191	-10.176	0.000	-2.320	-1.570
_cons	-0.472	0.062	-7.603	0.000	-0.594	-0.351

The AR (1) value of the dynamic panel model is 0.000 less than 0.05, and the AR (2) value is 0.159 greater than 0.05, indicating that the model's interference term autocorrelation does not exist; the p-value of the Hansen statistic 0.263 is significantly greater than 0.05, indicating that the dynamics The tool variables used in the panel model are effective, and the dynamic panel model established is reasonable.

From Table 5, it can be seen that the lagging first-order term L1.debt of corporate debt leverage (debt) has a positive impact on corporate debt leverage (debt) at a significant level of 1%, and the impact coefficient is 0.594, indicating that corporate debt has increased in the current period. The next period of corporate debt also tends to rise, and corporate debt leverage is path-dependent. The impact of the remaining variables on corporate debt leverage (debt) is basically consistent with the regression results of the full-sample fixed-effects model, indicating that the analysis of the factors affecting corporate debt leverage is robust and supports the above findings.

## V. CONCLUSION

This article uses a fixed-effects model to analyse the influencing factors of corporate debt leverage. The conclusions obtained are as follows: Firstly, macroeconomic environment indicators have a significant impact on changes in corporate debt leverage ratios, economic stability and sufficient capital liquidity are conducive to increasing the desire of enterprises to expand

reproduction and expand the scale of financing. Secondly, financial market indicators have a significant impact on changes in corporate debt leverage ratios. The greater the financial institution's support for the real economy, the stronger the company's ability to obtain debt financing. Thirdly, the company's own production and operation indicators have a significant impact on the debt leverage ratios. the profitability indicators (such as profitability, return on net assets) and the leverage ratio show a negative correlation, and this negative correlation is the most significant among all influencing factors. There is a negative correlation between liquidity of funds and leverage, a negative correlation between company size and leverage, and a positive correlation between the degree of corporate financialization and leverage. In the long run, the reduction of corporate debt leverage ratio must be achieved by improving social productivity and achieving long-term stable economic growth. The company's own profitability is a stabilizer for adjusting corporate debt leverage. A very important measure to improve the profitability of an enterprise is to improve its independent innovation capability, that is, its own endogenous growth momentum. At the policy level, enterprises should be encouraged to improve their ability to innovate independently, increase the introduction of talents, and promote technological innovation as the focus of China's economic growth.

## REFERENCES

- [1] Bell,P.K..Bockstael,N.R.(2000).Applying the

generalized-moments estimation approach to spatial problems involving micro level data. *Review of Economics and Statistics*, 82:72–82.

- [2] Bu D. and T Ch. (2017). Industrial policy, debt financing and overcapacity. *Accounting Forum*, 1:45-63.
- [3] Cecchetti S.G, Mohanty M.S, Zampolli F. (2011). The Real Effects of Debt. *Social Science Electronic Publishing*, 68: 145-196.
- [4] Li, Y. (2015). Comprehensive policy "de-leveraging". *China Economic Report*, 10: 83-85.
- [5] Lu T and Yu Y. (2015). The Dynamic Path of China's Corporate Debt to GDP Ratio. *International currency review*, 12: 1299-1315.
- [6] Jiang H, Zhang Y. (2017). Analysis of China's Non-Financial Enterprise Sector Debt Status and Influencing Factors. *China Development*, 4: 6-11.
- [7] Kelejian, H.H., Prucha, I.R. (1999). A Generalized Moments Estimator for the Autoregressive Parameter in a Spatial Model, *International Economic Review*, 40(2):509- 533.
- [8] Ma, J., Dong, X. & Shi, H. (2016). China's leverage ratio and systemic financial risk prevention. *Finance and Trade Economy*, 1: 5-21.
- [9] People's Bank of China Leverage Research Group, (2014). China's economic leverage level assessment and potential risk research. *Financial Supervision Research*, 5: 23-38.
- [10] Tan X., Li Y. (2018). Debts of Non-financial Enterprises in Emerging Market Countries: Status Quo, Causes, Risks and Countermeasures. *International Economic Review*, 5: 61-77.
- [11] Yang G. (2018). Research on Structural Problems of Leverage of Non-financial Enterprises in China. *Economics and Management*, 2: 63-69.